TB CARE I

TB CARE I - Botswana

Year 2

Annual Report

October 1, 2011 – September 30, 2012

October 30, 2012

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List of Abbreviations

AFB	Acid Fast Bacilli
CDC	Center for Disease Control and Prevention
CMLT	Chief Medical Laboratory technician
CTBC	Community TB Care
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Short Course
DR	Drug Resistance
DRS	Drug Resistance Survey
DST	Drug Susceptibility Testing
EQA	External Quality Assurance
GFATM	Global Fund for Aids, Tuberculosis and Malaria
IC	Infection Control
KNCV	KNCV Tuberculosis Foundation
MDR	Multi Drug Resistance
MDRTB	TB Multi Drug Resistant Tuberculosis
M&E	Monitoring and Evaluation
MGIT	Mycobacteria Growth Indicator Tube
MOH	Ministry of Health
NTP	National TB Program
NTRL	National Tuberculosis Reference Laboratory
OR	Operational Research
PMDT	Programmatic Management of Drug-resistant Tuberculosis
QMR	Quarterly Monitoring Report
SADC	Southern Africa Development Community
SLD	Second Line Drug
SNRL	Supra National Reference Laboratory
SOP	Standard Operating Procedures
SS+	Sputum Smear positive
SS-	Sputum Smear negative
TA	Technical Assistance
TB	Tuberculosis
USAID	United States Agency for International Development

Executive Summary

KNCV is the lead partner and sole implementer in Botswana of the TB CARE I project. The total buy in from the country USAID mission was in the amount of $300,000 for this fiscal year (October 2011-September 2012).

The Botswana team is comprised of two staff members: one Senior Technical Advisor to the National Tuberculosis Control Program (NTP) and one Chief Medical Laboratory Technician-EQA (CMLT-External Quality Assurance). The Senior Technical Advisor's role was to support the NTP in all the 6 technical areas of the core Stop TB strategy (Programmatic management of drug resistant tuberculosis (PMDT), Laboratory strengthening, TB/HIV collaborative activities, Monitoring and evaluation, Community TB Care and TB infection control) with a main focus on Community TB Care (CTBC). The CMLT supports the National Tuberculosis Reference Laboratory (NTRL) in accreditation (quality management systems), roll out of new diagnostics-LED Fluorescent microscopy and the Gene Xpert MTB/RIF test, External Quality Assurance (EQA) for the Botswana national AFB microscopy laboratory network and training of laboratory technicians from peripheral laboratories.

In the second year of TB CARE I the project's main focus was on two following technical areas: Laboratories and Universal Access; specifically Community TB Care. The Botswana National Tuberculosis Reference Laboratory was accredited to ISO 15189 international Standard by the South African National Accreditation Systems (SANAS). The same laboratory was selected as a SADC Regional Supranational Reference Laboratory. Fifty (27 Females; 23 Males) Laboratory Technicians were trained in AFB smear microscopy. LED Fluorescent smear microscopy has been rolled out to 11 high-volume facilities with 9 facilities having completed validation and ready to routinely use this technology. Through a TB CARE I core mechanism, NTP and NRL staff attended a Gene Xpert roll-out workshop where a draft Gene Xpert expansion plan was refined. Botswana hosted a core project to pilot a Laboratory Strategic Planning Handbook and developed a TB specific laboratory strategic plan for the country.

The in-country Senior Technical Advisor joined the Botswana TB CARE I project in December 2011. In partnership with the NTP and the MOH Department of HIV/AIDS Prevention and Care, he supported the development of an integrated CTBC and HIV home-based-care system. Through this proposed system, the NTP and Department of HIV/AIDS Prevention and Care seek to leverage funds used in the two programs to expand the reach of CTBC to areas which have not been previously covered. A concept paper on family-based community TB care to augment the current volunteer based CTBC efforts was also developed. Through TB CARE I, TB/TB-HIV training tools were developed, harmonized and finalized. A Private Public Mix (PPM) policy was also completed. Consequently, 53 Private sector health care providers have been trained using these tools. In addition the in-country Senior Technical Advisor conducted district mentoring and supportive visit to 23 health facilities. The Botswana Transitional Funding Mechanism application to Global Fund was successful; TB CARE I was instrumental with support by the local staff, a sub-contracted regional budget expert and a KNCV international consultant from The Hague. The funds are to provide much needed support for community TB care and monitoring and evaluation activities of the NTP which would have stopped if no funding was identified.

Introduction

TB CARE I in Botswana with sole implementation by KNCV was awarded a budget of $US300, 000 focused on the provision of technical support from both local in-country and periodic international expert technical advisors in two key technical areas of Universal access and Laboratories. With national coverage TB CARE I provided technical assistance in Laboratories to support:

1) The national TB laboratory network in continued implementation of the EQA program;
2) The National Tuberculosis Reference Laboratory to achieve and maintain accreditation;
3) The validation of new novel laboratory diagnostics.

The in-country senior technical advisor technical supported the NTP with a focus on Community TB Care expansion. Through a core project mechanism, two international consultants provided support in the development of a draft TB laboratory strategic plan. In collaboration with partners TB CARE I through local and international support, facilitated the development of a costed Transitional Funding Mechanism proposal.

Universal Access

In discussion with the Botswana National Tuberculosis Program (BNTP) and partners as well as perceived gaps, TB CARE provided technical support for the expansion of the Community TB Care program in APA 2.

Technical Outcomes

Expected Outcomes		Outcome Indicators	Indicator Definition	Baseline (Year or timeframe)	Target Y2	Result Y2	Comments
(1.2)	1.2 Increased quality of TB services delivered among all care providers (Supply)	1.2.4 CB-DOTS program is implemented Indicator Value: Score (0-3) based on definition.	2. The NTP has piloted CB DOTS in selected geographical areas. An implementation plan including timelines and budget should be in the plan 3. NTP scaled the implementation of CB DOTS to additional geographical areas with similar implementation plan as mentioned above	2(2011)	2	3	Uptake of CTBC has been increased from 35% to 61% of the TB patients enrolled in treatment have been put on community TB Care

Key Achievements

The in-country Senior Technical Advisor in APA 2 in partnership with the NTP and the HIV department supported the development of integrated CTBC and HIV Home-based-care systems. This system seeks to leverage funds used in the two programs to expand the reach of CTBC to areas which have not been previously covered. The In country Senior Technical Advisor in APA2 also focused on developing a concept paper on Family based community TB care to augment the current volunteer based CTBC efforts. Uptake of CTBC has been increased from 35% to 61% with a target of 75% in 2012.

Challenges and Next Steps

Uptake of CTBC has increased from 35% to 61%, but with a target of 75% in 2012 it was still not achieved due to lack of funding, after cancellation of the Global Fund Round 11 which was expected to support the expansion. Lack of funding to carry out support visits hampered further activities to support districts. In APA 3 the Senior Technical Advisor will continue to focus on CTBC as the NTP will receive funding from Global fund and leveraging in-country partner resources to continue expansion of coverage of CTBC to 90%.

Laboratories

TB CARE I through in-country local and periodic international expert consultants continued to take the lead in building capacity for culture, first and second line drug susceptibility testing using liquid media and molecular techniques. In addition TB CARE I supported the National Tuberculosis Reference Laboratory (NTRL) with its continued maintenance of accreditation through strengthening of the quality management system.

Technical Outcomes

Expected Outcomes		Outcome Indicators	Indicator Definition	Baseline (Year or timeframe)	Target	Result	Comments
					Y2	Y2	
#	2.1 Ensured capacity, availability and quality of laboratory testing in country needed to support the diagnosis and monitoring of TB patients	2.1.2 Laboratories with working internal and external quality assurance programs for tests that they provide including: a) smear microscopy, b) culture, c) DST, and d) rapid molecular test Indicator Value: Percent Numerator: Number of laboratories enrolled in EQA program meeting description above both nationwide and TB CARE areas. Denominator: All laboratories (national and TB CARE areas separately) that perform one or	Laboratories have successfully implemented a mechanism for performing internal quality control (e.g. Performing control samples, quality reagents etc.), blinded rechecking and supervision visits). Participating laboratories should have met WHO standards for QC/EQA results. Both laboratories, supervising and participating have to keep data on results for verification.	100% (52/52 labs) (2011)	100% (52/52 labs)	100% (52/52 labs)	EQA coverage remains at 100%. 50 (27 Females. 23 Males) laboratory technicians were trained in AFB smear microscopy. LED Fluorescent microscopy EQA has been rolled out.

		more of the above TB diagnostics.					
		2.1.2 Description: Accreditation of NTRL by SANAS Indicator Value: Yes/No Level: Central Source: TB CARE Means of Verification: Accreditation Certificate Numerator: N/A Denominator/A	NTRL has implemented a quality management system and is accredited.	No (2011)	Yes	Yes	NTRL received its accreditation to ISO 15189 through the South Africa Accreditation Systems (SANAS)
	2.3 Ensured optimal use of new approaches to the laboratory confirmation of TB and incorporation in national strategic lab plans	2.3.1 New technologies have been introduced Indicator Value: Number for each technique below by Central, Provincial, district and Peripheral levels 1. TB culture 2. First line DST 3. Second-line DST 4. HAIN MTBDRplus 5. Gene Xpert 6. LED microscopy	New technologies for diagnosis of TB are implemented and routinely used for diagnosis. Training of staff has been conducted and a quality management system has been established. The indicator should be answered individually for every technique that has been implemented at the different health care levels mentioned	1 1-TB Culture/central 1-First Line DST/central 0-Sec Line DST/Central 1-LED/ Central 0-LED/District (2011)	1 1-TB Culture/central 1-First Line DST/central 1-Sec Line DST/Central 1-LED/ Central 11-LED/District	1 1-TB Culture/central 1-First Line DST/central 0-Sec Line DST/Central 1-LED/ Central 9-LED/District	Challenges were faced in finalizing the validation of both first and second line drug susceptibility testing which included staffing and supplies.

Key Achievements

Strengthening of the laboratory implementation of the quality management system has seen the NTRL accredited to the ISO 15189 international standard in March 2012 and continue to maintain this status. The NTRL was also selected as a SADC regional supranational reference laboratory, TB CARE I supported implementation of the quality management system and strengthening of culture and drug susceptibility testing capacity which were among the key criteria for selection. Through TB CARE 1 technical support training of 50 (27 Females. 23 Males) laboratory technicians in AFB smear microscopy was conducted. Introduction of new tools was supported with roll out and validation of LED Fluorescent microscopy in11 pilot sites of which 9 sites are ready to routinely implement the new diagnostic test. Introduction of the LED Fluorescent microscopy to the high volume sites will help reduce workload and improve the sensitivity of smear microscopy in the country. TB CARE I also continued to support 100% implementation of the EQA by all laboratories in the country's TB laboratory network. EQA program for LED Fluorescent microscopy was also developed. Strengthening of DST capacity for first and second line testing to decrease turnaround times of results continued with a mission from the Regional Laboratory Consultant who provided technical input into the process. Challenges still remain to finalize the validation of both first and second line drug susceptibility testing.

Challenges and Next Steps

Delays in validation of first and second line drug susceptibility testing due to lack of process ownership at the NTRL, lack of supplies, and staff turnover have been noted. In collaboration with in-country partners; CDC, NTP and the NTRL, TB CARE I has supported the constitution of a validation committee and supports the strengthening of the supply chain management at the Laboratory.